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Background Report

Background Report

on land use planning in the Bouctouche Watershed

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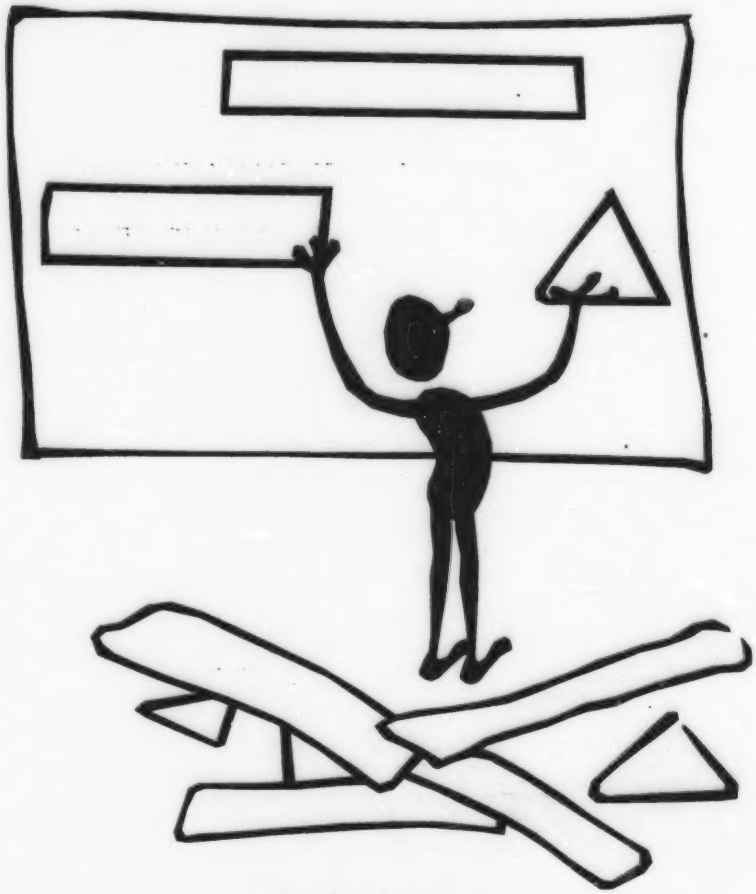

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Background Report

This report was made possible with the efforts of a number of people and organizations. It very much was a partnership with the Kent District Planning Commission (the executive, the director, Daniel Goguen, the technical staff and the commissioners), the Bouctouche Bay EcoTourism Project Inc. (Rachelle Richard-Collette, coodinator and the staff and members of the Steering Committee), the Irving Sustainable Development Chair at the University of Moncton (in particular Louis LaPierre, chair) and the Department of Municipalities (both Gerard Belliveau and Gary Mesereau, and the planning staff of Ken Kinney and Betty Godin). We would also like to thank those who participated in the workshop mentioned in this report.

In some ways this report tries a different approach to a background report – it is future oriented and focused on a watershed. Generally, a background report inventories information about the economy of the area, geographic information, landmarks, municipal facilities and so on. The point of departure was that we began with trying to describe the future of this area, by listening to local stakeholders. We also struggled with understanding how land use plans might be used to direct development in the entire watershed (rather than a small portion).

The readers will be the judges of how well this different approach worked. Actions on the recommendations contain in this report will be another visible sign that this approach has merit for further consideration. Finally, other planning commissions may adapt this approach to their background reports that will serve as evidence of having an effect.

We thank you for this opportunity to take a small step in furthering the interest and need for land use planning in this province.

Thank you all

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1. Introduction

1.1 Purpose

The purpose of this background report[1] is to explore and create an understanding with stakeholders about the long-term future in the Bouctouche watershed. Conservation, the orderly use of resources, existing and future developments and growth pressures will all be examined.

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This background report should serve to coordinate, among other things; the phased approach to land use plans in the watershed. The objectives and tasks of the background report are to explain the systems within the watershed, to clarify the role of land use planning, to describe a desirable future and to recommend how to use plans to get there.

1.2 Method

There is considerable data and information about the watershed that has been compiled on digital maps regarding the flora, fauna, topography, developable areas, soils, flood prone areas, human settlement, etc. This information has been gathered by a variety of organization, the two main ones being, the Kent district planning commission and the Chaire d'etudes K.C. Irving en developpement durable of the Universite de Moncton (table 1).

Table 1 Partial list of data and information layers of the Bouctouche watershed

Agriculture land	Forest soils
Aquaculture sites	Landfill sites
Archeological sites	Lodging
Attractions	Mature coniferous habitat
Beaches	Peatland areas
Buffer zones	Restaurant
Camping	Sensitive areas
Cemeteries	Slopes/erosion (elevations)
Deer wintering areas	Soil limitations (septic tanks)
Environmentally significant areas	Trails
Flood risks	Wetlands
Forest cover	More…

The first two steps, to describe the role of land use planning and to describe a desirable future, were accomplished during a workshop back in June of this year. This report

[1] This report represents a draft

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examines these results; compiles them with past, present and future data and tries to understand the role of land use in the long-term future of the watershed.

Review of steps for this land use planning exercise:

- Getting started: inventory of data and maps
- Describe the future: workshop with stakeholders
- Compile profile: past, present and projections for the watershed
- Understand the role of land use planning
- Compile draft report: discuss with stakeholders
- Submit report

This report is limited to information obtained from statistical data and from the point of view of a dozen or so stakeholders from the Northumberland Strait Sustainable Development Committee (NSSDC). A wider public consultation is recommended. Also, although we talk about the Bouctouche watershed throughout this report, we are not studying the actual boundary of the watershed. (see map 1) The watershed we are describing in this report is actually made up of the following parishes: Bouctouche, Wellington, St-Marie and St-Paul. The town of St-Antoine is on a plateau and appears to drain into at least two watersheds. This area requires further examination and is therefore left to another effort, possibly when the town updates their municipal plan.

The first section of this report will describe what is a desirable future, from the stakeholders' point of view, for the Bouctouche watershed. In the second section, we explain different land uses in the watershed and addresses the issues surrounding these land uses. The third section of this report examines past en present data for the watershed. We also examine some population projections. Finally in section 4 we explain the sequence of plans and in section 5 we recommend.

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Map of Bouctouche watershed

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2. What is a desirable future?

2.1 The year 2020

During a June workshop (table 2) on land use planning in the watershed, stakeholders of the NSSDC were asked what actions need to be taken to ensure a desirable future.

Table 2 List of stakeholders from June workshop

Bill Ashton (Municipalities)	Daniel Goguen (Kent planning commission)
Nicole Allain (Agri-conservation Club)	Sandrine Guérin (Ecotourism project)
Linda Chiasson (Fisheries and Oceans)	Joanne Langis (Ecotourism project)
Harry Collins (MREAC)	Pierre Lévesque (Ecotourism project)
Eugère Cormier (M&H)	Graham Lutes (area resident)
Edmon Drysdale (Union des pêcheurs)	Marie-Josée Maillet (DFA)
Ernest Ferguson (DFO)	Rachelle Richard-Collette (Ecotourism Pr.)
Isabelle Frenette (U de M)	Roger Thériault (Agriculture)
Carole Godin (DFO)	Claude Williams (DFA)

Among the differences pointed out by the stakeholders, they agreed that there would be more cottages all along the coast. Also they mentioned that there will be less access to the beaches (a lot of private beaches) and there will be a lot more tourists, which in turn will have a negative effect on the watershed because of increased pressure on resources.

Stakeholders also mentioned that land use in the watershed would become a model for other watersheds in the province. According to them, residents will be more aware of their impact on the watershed, they will start to understand that they are not only part of the problem but also part of the solution.

Finally, others stressed the fact that there will be more private roads and more housing development and Bouctouche will eventually become a dormitory town, a place where people come to get away, to retire, instead of staying in larger cities such as Moncton.

For Agriculture land use, participants agreed that actions should be taken to minimise release of bacterial contaminants, pesticides, sediments and nutrients to water. Also actions should be taken to adopt and promote best-management practices along with education for farmers. Some participants wanted emphasis placed on family farms rather than intensive farming. According to some stakeholders, intensive farming is not economically viable for the watershed and it only serves to enrich a few.

For Residential land use, it was agreed that there is a need to establish areas to dispose of toxic materials. Also they concluded that some wastewater collection and treatment systems were old and inadequate and they should be replaced. Others mentioned the need to promote green or environmentally friendly communities. Also, we not only need to address water and waste problems but also proper residential development.

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For Recreation land use, some participants suggested that we should encourage cottages to be built in clusters instead of spread out along the shoreline. Areas could be designed specifically for cottages so that public access to the shoreline is not restricted.

As for Industrial land use, suggestions that called for addressing siting and location concerns. The question of where we should put industrial zones was asked; some suggested that there should be an in-depth study about such development. There was some discussion of using the 470 metres development area from the coastal policy as a minimum.

Actions needed for Forest land include having a better management of private woodlots since they cover the majority for the watershed (e.g., using DNRE's woodlot management plans).

What is a desirable future for the watershed? If we summarize the actions needed, according to stakeholders, they would be:

- Better management practices for land uses (e.g., land use plans for rural areas)
- More jobs in "traditional" sectors (e.g., forestry, agriculture, fishery)
- Industries should be located away from rivers
- Better public access to shoreline

2.2 Current land use in the Bouctouche watershed

The Bouctouche watershed covers 639 km^2; there are eight different types of land uses in the watershed (Table 3):

Table 3 Land uses and area in the watershed

Land use	**%**	**Area (km^2)**
Residential	17 %	112 km^2
Commercial	less than 1 %	less than 5 km^2
Industrial	less than 1 %	less than 5 km^2
Institutional/Utility	less than 1 %	less than 5 km^2
Agriculture and vacant	17 %	110 km^2
Recreational and environment	less than 1 %	less than 5 km^2
Forest land	58 %	375 km^2
Water	5 %	30 km^2
Total	100%+/-	**639 km^2**

Residential land use represents different types of housing in the watershed. This land use has its highest density in and around Bouctouche and Wellington and much lower density in the parishes of St-Paul and St-Marie.

Commercial land use is land typically used to sell goods and services to the public. Such land use is found mostly along major arteries in the town of Bouctouche.

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Industrial land use is associated with manufacturing and processing of a raw resource or a value added activity. In the watershed, industrial land use is very scattered and found in Bouctouche, Wellington, St-Marie and St-Paul.

Institutional and utility land use is associated with public buildings or properties. As with industrial, institutional land use is found mostly in Bouctouche and Wellington parish.

Agricultural and vacant land use is included into two categories, land which falls under the F.L.I.P. (Farm Land Identification Program) program which means that the parcel of land is currently in use or cultivated and land that is considered agricultural but that is not in use or not cultivated. Agricultural land use is mostly found along the Bouctouche River in Bouctouche and St-Marie and along the little Bouctouche River.

Recreational and environmental land use is usually divided into two categories, there is passive land use which does not require infrastructure and active land use which is associated with site specific built equipment. We can find this land use along the coast in Bouctouche and Wellington.

Forest land use represents all the woodlots in the watershed. Forest land represents a large portion of the watershed and is found mostly in the parishes of St-Marie and St-Paul.

The parish of St-Paul is mostly covered with forest land, although there is some agriculture. St-Marie is equally divided between agriculture and forest land use. In the town of Bouctouche, there is a lot of residential land use and some agriculture. Finally in Wellington parish, there is a mix of residential, agriculture and forest land use (Table 3).

Table 4 Summary of land uses in the Bouctouche watershed

	Town of	Parishes of		
Land use	**Bouctouche**	**Wellington**	**St-Marie**	**St-Paul**
Residential	1*	1	2	2
Commercial	2	2	3	3
Industrial	2	2	3	3
Institutional/Utility	2	2	3	2
Agriculture	2	2	1	1
Recreation	2	2	3	3
Forest	2	2	1	1

*1=widespread 2= limited 3=little to none

2.3 What are the current land use issues

According to stakeholders in a recent land use planning workshop, there will be major differences for the watershed in the year 2020.

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The workshop stakeholders identified four major issues currently facing the watershed:

- **Tourism**

Tourism is becoming a very important component of the region's economy, not only in Bouctouche but also all along the coast from Kouchibouguac National Park to Cap-Pelé.

During the past few years tourism in the watershed has increased considerably. Evidence of this is the increases in traffic in downtown Bouctouche and the need for more accommodations, in response a growing number of bed and breakfasts and the high number of no vacancy in the summer time. Other evidence of the growing number of tourists are, for example, the eco-centre which has had to limit its number of visitors per day and is facing a growing parking problem and this after only two years of operations. Bouctouche and Wellington seem to be faced with the most pressure from tourism since they are both coastal and a great majority of tourists come in the summer time seeking beaches and other water related activities. The region, economically, is depending on this growing industry but others question if the region is able to sustain all of these tourists.

- **Natural resources**

Issues related to resources are closely related to economic opportunity. A large portion of the watershed is privately owned forest land. Because of the large unemployment rate in the region, often a woodlot owner will sell the harvesting right to his land to a large company because he is looking for a fast, short-term profit. This represents a minimal short-term gain for the woodlot owner. It becomes an issue because forested land in the watershed are diminishing and this will have negative environmental consequences i.e. erosion and siltation of the river basin.

Agriculture is becoming more and more of an issue as we witness a dramatic decrease in traditional family farms and an increase in corporate owned farms. This is an important economic issue for the watershed. The money that is spent in the family farm will likely stay in the region, but the corporate owned farm is often owned by an outsider, employs a very small staff and the money may not be spent in the region. St-Marie seems the most likely parish facing the loss of traditional farming to more intensive farms.

Aquaculture is a fast growing industry in the Bouctouche watershed, especially the culture of oysters in the Bouctouche Bay. The concerns expressed by the stakeholders were that aquaculture is growing to fast and there are already too many leases. Although, aquaculture represents economic benefits for the region, there are also concerns about the water quality in the Bay and the carrying capacity e.g. how much oysters can the bay "produce" without polluting water or endangering other species.

- **Access to water**

A very large portion of the New Brunswick coast is privately owned. In recent years there has been an increase in cottages and camps built along the Bouctouche coast. This represents a large problem for the Bouctouche watershed because access to water is becoming scarcer and very restricted. The number of cottages and camps represents added pressure for coastal lands to assimilate septic fields and more chemicals.

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Bouctouche and the parishes of Wellington and St-Marie are faced with this issue because of the number of camps along the river.

- **Increase in population**

Stakeholders believe that there will be an increase in the total population of the watershed by 2020. This increase is explained by two phenomenon: first some believe that Bouctouche could become a dormitory town i.e. Moncton; second, more and more people are coming back to the region to retire, after having left years ago. While all of the watershed could experience population growth, it is thought that it will be fused on the town of Bouctouche and in the Wellington parish (table 4).

Table 5 Summary of stakeholders' view of the future

Issues	Town of Bouctouche	Parishes of Wellington	St-Marie	St-Paul
Tourism	★	!	!	–
Natural Resources	!	★	★	★
Access to water	★	★	!	!
Increase population	★	★	–	–

★ = Issue directly affects the area now and in the future
! = Issue affects the area in a limited way, now and in the future
– = Issue unlikely to effect this area in the future

After analysing the stakeholders' point of view, we are able to make a few comments:

- The pressure to accommodate future growth appears to be greatest in the town of Bouctouche and the parish of Wellington.
- Managing natural resources will continue to be of high importance throughout the watershed.
- The parish of Wellington will be challenged with a growing tourism industry and the better management of resources.

The stakeholders described a future for this watershed by the year 2020. The current land uses have been identified with 4 major issues. The report, in section 3, will compare and contrast the thoughts of the stakeholders with compiled data.

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3. How do we get to 2020?

In section number 2, we examined what stakeholders believe to be issues facing the watershed. In section 3.1 we look at the past, present and future data to better understand what is really happening in the watershed. We will look at data for population, labour force and assessments so a comparison can be made (see appendix 1 for a more complete data analysis). In section 3.2 we explain what is the role of land planning in dealing with the issues outlined in section 2. Finally, we have a few reflections and observation in section 3.3.

3.1 Data: past, present and future

Stakeholders believe that tourism, resource, access to water and increase in population are current issues facing the watershed and need to be dealt with in order to achieve a desirable future.

3.2 Population

After examining the data, we have found that population increased by 3% between 1981 and 1996 in the watershed. This included a population increase in Wellington, St-Marie and St-Paul, with a decrease in Bouctouche. However, projections data from Statistics N.B. showed that the total population of the watershed should decrease by 2% in 2020. This represents a decrease of 215 in total population (Table 5).

Table 6 Population

	Bouctouche	Wellington	St-Marie	St-Paul	Watershed
1981 to 1996	-3.6%	+13%	+12%	+1%	+3%
1996 to 2020	n/a	n/a	n/a	n/a	-2%

3.3 Labor force

When looking at labor force by industry, between 1981 and 1996, there were increases in the following sectors: accommodations, food and beverage service industry, business service industry and health and social services industry. Industry sectors sustaining the biggest losses during this time were real estate, mining and finance. Also, agriculture sustained a more than 25% loss in labor force during this time. These numbers are indicative of the economic shift in the region. There are fewer jobs in primary sectors and more jobs are created in the service industry.

3.4 Assessment

Total assessment for the watershed doubled between 1986 and 1999 to almost 210 million dollars (40% for Bouctouche, 27% for Wellington, 24% for St-Marie and 9% for St-Paul). There was also a significant increase of assessment in the town of Bouctouche and the parish of St-Marie. Overall, assessment showed very large increases from 1976 to

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1986 but since then growth has slowed down in the town of Bouctouche and in the parish of St-Marie, and there was even a decrease in the parish of St-Paul (table 6).

Table 7 Assessments

	1976-1986	1986*-1996	1996-1999	Total 1999 ($)
Watershed	n/a	+76%	+13%	211,038,700
Bouctouche	+277%	+94%	+4%	84,864,600
St-Marie	+410%	+54%	+10%	50,066,400
St-Paul	+581%	+55%	-2%	20,008,100
Wellington	+328%	n/a	n/a	56,099,600

* some of the data is from 1989 instead of 1986

In the last section, we analyzed some data for population, labor force and assessment for the watershed. These are some of the results from this analysis:

- Population has increased in the watershed between 1976 and 1996
- Projections suggest that there will be a decrease in the overall population of the watershed by 2020
- Projections suggest that there will be an increase in the 65+ age group by 2020
- Labor force shifted from primary to mostly tertiary in the last 20 years
- Labor force sector with greatest increase in last 20 years: Accommodations, food and beverage industry
- Total assessment for the watershed and all parishes showed strong growth between 1976 and 1986; growth moderate since then

There are a lot of similarities between issues brought up by stakeholders and actual data. For instance, tourism is increasing in the watershed as reflected in the labor force sector of accommodations, which increased by more than 165% in the last 20 years. Also, primary sectors have lost some of its labor force in the last 20 years and tertiary sectors have increased a bit. This could explain the shift from more traditional farming and forestry to the more intensive activities that we have seen in the past few years.

Also, according to population projections, the 65 and over age group will increase by more than 55% by 2020, this seems to corroborate what stakeholders were saying i.e more and more people are coming back to the region to retire.

There are also some differences between the issues and the data. The biggest difference is in the population. Stakeholders agreed that there would be an increase in total population by 2020 but according to the data projections the total population should decrease. Even a modest growth in this area will have considerable effects.

3.5 How do we deal with the issues?

What role can land use plans have in addressing the issues discussed in section 3 so this community can move toward a desirable future? At this time we will be using the future

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as discussed by the stakeholders, in section 1. Also, we will be focusing on the role of plans, as permitted under the Community Planning Act. By focusing on plans, this leaves the discussion open for the Kent District Planning Commission to see what process(es) and roles will best suit the community in preparing the plans.

Each of the issues is discussed below in light of the role of land use plans (Table 7).

Table 8 Issues and the role of land use

Issues	Role of Land Use Plans
Tourism	
1. Increased traffic in town and coastline	1. Address in municipal plan
2. Parking downtown a problem in summer	2. Address in municipal plan
3. More businesses, some seasonal	3. Partially addressed in municipal plan, others take action e.g., BIA,
4. How to sustain tourism /eco-tourism	4. Coordinate town/rural plan policies, others take action for greener businesses, and municipality
Natural Resources	
1. Woodlot management needed	1. Limited with forestry zone
2. Promote / support family farm	2. Limited with forestry zone
3. Limit intense farm operations	3. Define e.g. developments
4. Many aquaculture leases	4. Limited, a management plan needed
Access to water	
1. More public assess to shore needed	1. Inventory, designate, create new accesses
2. Ensure cottages preserve water quality	2. Require set backs, clusters, communal septic
Increase in Population	
1. Could be a decrease in population	1. Little, requires major effort by others
2. More seniors, less youth	2. Limited, others need to address this

From the above table, the role of land use plans in addressing these issues are noted:

- **Tourism**

The land use plan will be able to study and find ways to improve the traffic flow and parking alternative. However, a plan will not be able to reduce the summer traffic, nor the changing economic structure that is occurring in this area. A plan can identify the prefer places for more commercial development, including mixed projects with commercial and residential. This might be particularly attractive in the downtown where the business faces the street and the residential could be facing the water. This may lead to more specific design guidelines for the business improvement area in the downtown.

Both town and rural plans can have policies supporting eco-tourism, energy efficient buildings and street layouts. This may lead to the town initiating an energy audit and investing in more energy and resource efficient municipal buildings and operations. This

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may lead to the municipality and businesses and residents involved in buying 'green' products, recycling and even more. In this matter, the plan is pointing to an opportunity that is only realized with the leadership and involvement of others.

- **Natural Resources**

A land use plan can preserve the rural character of the watershed. It can designate areas for certain uses and not for others. For example, a plan can designate areas for forestry and farming. However, the issues are mostly related to individual management practices, which a plan can't address. Although earlier in a plot project, the results for improvement farming techniques are promising[2].

- **Access to water**

A land use plan can have a policy that calls for more access to water. A plan could also contain proposals that coordinate the purchase of lands to increase the number of accesses and improve existing ones. The challenge is to involve landowners and other in the community to bring about more accesses. Guidelines for cottage development will also help show that alternatives to linear coastal development are possible which do not diminish the aesthetic of the shoreline or the water quality.

- **Increase in Population**

A land use plan would be created with assumptions about population. This means that more residential areas are needed or more business areas required. Thus, one of the most important considerations in preparing a plan is population growth. A plan makes ready for growth, thus it responds to a projected increase or reduction. A population increase is possible when one considers the stakeholders' vision for 2020. However, realizing growth will require significant efforts over the next twenty years. Likewise the shift in demographics with more senior and less youth will also require coordinated efforts and strategies. What a planner can do is determine if the land uses are adequate for such growth. Again, the bulk of these changes reach beyond the contents of a plan.

In summary the plan has a role in effecting tourism, preserving the rural character of forest and farms, and proposing accesses to water. A plan will have little effect for resource management and changes in the population. Where the plan is less effective or not at all, then other actions will have to be decided.

3.6 Reflections and observations

The Bouctouche watershed is currently faced with major issues. These issues need to be addressed because they are very important to the economy and well being of the region.

After reviewing these issues and the role of land use planning, it is clear that a land use plan is not sufficient in resolving up all of those issues. Some issues, like resource

[2] The agri-conservation Club is geared to help farmers adopt more sustainable farming practices through education and integrated management.

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management and changes in population are beyond the scope of a land use plan. Resource management is an important issue and it has been for centuries, not only in the watershed but also in all of the regions of the province. There have been some improvements in the last few years, like sustainable forestry, certification of woodlot owners, better management practices in agriculture but these are not sufficient. Resource management can only be resolved with the realization that the benefits of long-term management of resources far outweigh short-term benefits. But, again, this is not so simple, because of the economic problems in the region and the high unemployment rate, short-term gain are often the only possibility. Resource management is only one example of the complexity of the issues facing the watershed.

On the other hand, a plan could still help resolve major issues, issues we believe are of high importance for the future of the watershed. These issues are access to water, construction of new cottages in clusters instead of all along the shoreline and preserving the rural character of the watershed. Even with these issues, education is needed, people need to understand why they can't build along the shoreline, but a land use plan is a step in the right direction.

In the next section, we will look at possible sequence of plans for the watershed and Kent County.

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4. Sequence of plans

4.1 Boundaries (watershed or administration)

Has explained earlier in this report, the boundaries chosen for the watershed were the administrative boundaries of the following parishes: Bouctouche, Wellington, St-Marie and St-Paul. These three parishes cover the majority (77%) of the physical boundary of the Bouctouche watershed (Table 9). There is, however, still 23% of the watershed that will not be addressed in a land use plan.

Table 9 Administrative units of the Bouctouche watershed

Administrative Unit	Area	Area in Watershed	% in Watershed	Comment
Town, Bouctouche	1,843	1,842	100%	
Wellington Parish Ste. Anne LSD Deroche LSD	19,047	13,105	69%	
St. Marie Parish Grand St. Ant.LSD	22,687	18,486	77%	
St. Paul Parish	22,687	18,571	82%	
Sub Total	**67,591**	**52,005**	**77%**	
Dundas Parish	2,2478	229	1%	Could include in Kent DPC
Moncton Parish	780,006	5,643	7%	Could include in Kent DPC
Harcourt Parish	116,896	1,221	1%	
Welford Parish	64,098	168	.3%	
TOTAL	**349,069**	**59,176**	**100%**	

4.2 Time frame and number of land use Plans (municipal, rural)

During the June workshop, it was agreed upon that all land use plans should be completed in a 24 month time frame. There are different ways in which this can be accomplished:

Option A: 2 plans (one for Bouctouche and on for all rural areas)
Option B: 3 plans (one for Bouctouche, two rural plans, Wellington, St-Marie and St-Paul)
Option C: 4 plans (one for Bouctouche and three rural for each parish)

There are advantages and disadvantages to each of these plan options. Option A is easy to understand and it integrates issues all at once but on the other hand, it is quite a large task. Option B and C are easy to initiate, the sequence options are possible and they respond to growth pressure. On the other hand in option B, coastal issues in St-Marie and

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St-Paul will be mixed. In option C, disadvantages are that there will many plans and they might be so different.

We believe there are a couple of considerations to be understood before one of the options is accepted. In the first place, we need to pay attention to growth-pressured areas; these have to be a priority. Also, we need to have land use plans for the entire watershed, we need to address the concern of administrative boundaries versus watershed boundaries. Finally, we nee to utilize, not exceed the plan making capabilities of the Kent Planning Commission, which is two plans per year.

From the above discussion, it is clear that four plans would be possible in a two-year period. In three years, six plans would be possible in Kent County, three for the Bouctouche area and three for the other parts of the planning commission area. To respond to the growth pressures, the first two plans should be in the town of Bouctouche and a rural plan in the parish of Wellington. In the second year a rural plan should be prepared for the parishes of St-Marie and St-Paul, given their common interest in natural resources. In the remainder of the second year and in the third year, three other plans would be prepared for the other parishes in the county.

4.3 Public Consultations

As stated earlier, this background report is limited by the information gathered in a workshop in June and by available statistical data. In order to proceed, with the recommendations from this background report, public consultations could be held in the different parishes in the watershed to better understand what is a desirable future and what is needed to attain this. Also, emphasis should be placed on the public's education regarding environmental issues facing the watershed. This education could be part of the public consultation process. In addition, the Kent district planning commission should continue to champion the environmental interests of this region in whatever way they see possible.

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5. Recommendations (stepping toward the future)

In many ways, the following recommendations form an action plan. What will continue to be of importance is involving more and more residents, business people and youth in articulating their vision. This needs to be followed with a willingness to quickly engage those that want to take action.

In many ways the recommendations are pointing to three modes of responses to the issues that have been identified by the stakeholders: plan making, immediate action, and issue definition (a little more research before taking action). In addition, these recommendations require initiatives on several fronts, which will require dividing the interests and resources to accomplish identifiable results in a certain time frame.

5.1 Plan Making Recommendations

By the fall of 2000, the Kent planning district commission will have completed two plans: a new rural plan for the Parish of Wellington and a revised municipal plan for the Town of Bouctouche.

By the fall of 2001, the Kent planning district commission will have completed two more plans: a new rural plan for the Parishes of Ste. Marie and St.Paul, and a plan elsewhere in the County.

By the fall of 2000, the Kent planning district commission will have determined the need for a more specific set of design guidelines to better bring about a coordinated image and building strategy.

5.2 Immediate Action Recommendations

By the spring of 2000, the BIA and Chamber of Commerce with the relevant partners in education and business host an economic development workshop to be held by youth (15-25) for youth. This one to two day event will define learning and business opportunities, along with an action plan for the three parishes and the Town.

Before February 2000, the Eco-tourism coordinating group should hold a one-day Leadership Workshop. Its purpose will be to confirm a leadership group that will be mandated locally to coordinate, initiate and enable others to action (economic, social, environmental fronts) and confirm continued confidence in a vision for this area, and develop and work toward a 3-5 year communication plan with the underpinnings of sustainable development.

5.3 Action-Research Recommendations

By the fall of 1999 the Northumberland Straight Sustainability Development Committee (NSSDC) should develop a position paper on the appropriate amount of aquaculture

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leases for the area, and with partners bring about a management plan that supports business development and a sustained ecology.

By the fall of 2000, a local group should be commissioned to bring about improved resource management practices. Indeed there may be two or three groups, sector specialists for woodlot management, agriculture and aquaculture. Using pilot projects and business case criteria, the practices will be aimed to improve the financial feasibility of the operation and preserve and improve the water quality.

By the fall of 1999, the NSSDC should prepare a project to establish a water quality baseline for this watershed. Using existing and if necessary collecting new data, the appropriate measures for quality should be agreed upon and implemented for in-shore and coastline. This may involve a sampling protocol for water quality.

These recommendations clearly point to the need for a coordinated effort on a number of fronts. Land use planning is part of the solution, but much more work is required on other fronts as well. Sustainable development, as these recommendations have stressed, is most often about the quality of the journey, and less about arriving. These recommendations point to achievements, strengthening the local organizations for decision-making and action-research. Leadership is required. Leaders will transfer the hope for this area, and invite others to create and commit to a vision and actions. This will take time and requires a shared vision.

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Appendix

The following pages present a broader analysis of the data that was examined for this report.

Population in the watershed and its different parishes

Between 1981 and 1996, there was a 3% increase in total population in the Bouctouche watershed which includes St-Paul parish, St-Marie parish, Wellington parish, the town of Bouctouche and the Bouctouche Indian reserve. Interestingly enough, when broken down into three age groups (0 to 19, 20 to 64 and 65 and over), there was a 27% decrease in the 0 to 19 age category. This decrease could be explained by the fact that there are an increasing number of smaller families, often with only one child. There was a 26% increase in the 20 to 64 age group and a 30% increase in the 65 and over category (see table).

Total population for Bouctouche watershed

	1981	1986	1991	1996	% change
0 to 19	4640	4165	3675	3372	
20 to 64	4620	4975	5375	5812	25,8
65+	1170	1320	1500	1521	30,0
Total	10385	10525	10580	10705	3,1

Total population numbers varied greatly between different parishes in the 1976 to 1996 time frame. For the Wellington parish, total population varied from 3191 to 3595 for a 13% increase in 20 years.

Wellington	1976	1981	1991	1996	%change1976-1996
0 to 14	955	1285	990	805	-15,7
15 to 64	1910	1670	2150	2285	19,6
65+	325	540	495	505	55,4
Total	3191	3494	3645	3595	12,7

Total population for the town of Bouctouche decreased by 4% between 1976 and 1996. The age group sustaining the biggest population loss was the 0 to 14 with a 23% decline. The increasing number of single-child families can explain this decline. The 65 and over age group jumped 65% during this time. This increase in the senior category may be explained by the fact that a growing number of people who were born in the region and had left the area in their early 20's and are coming back to retire.

Bouctouche	1976	1981	1991	1996	%change1976-1996
0 to 14	760	n/a	650	585	-23,0
15 to 64	1560	n/a	1375	1500	-3,8
65+	230	n/a	345	380	65,2
Total	2556	2476	2365	2465	-3,6

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The population of the St-Marie parish increased by 18% between 1976 and 1996.

St-Marie	1976	1981	1991	1996	%change1976-1996
0 to 14	555	750	635	625	12,6
15 to 64	1135	995	1235	1435	26,4
65+	185	310	285	150	-18,9
Total	1874	2036	2155	2210	17,9

Finally, for the St-Paul parish, data shows that the population increase between 1976 and 1996 was less than 1%, with population going from 973 to 980.

St-Paul	1976	1981	1991	1996	%change1976-1996
0 to 14	270	400	280	195	-27,8
15 to 64	590	485	600	660	11,9
65+	105	185	140	125	19,0
Total	973	1071	1015	980	0,7

Population projections for Bouctouche watershed

Population projections by Statistics N.B. for the Bouctouche watershed for the year 2020 show a 2% decline in total population. The age group most affected will be the 0 to 24 age group with a 29% decline. Again this decline in this age group can be attributed to the fact that there are an increasing number of single-child families. Also, it reflects the fact that it is around this age that people will leave the region to find jobs or to go to school. According to these projections there will be a 58% increase in the 65 and over age group by year 2020.

	1996	2000	2010	2020	% change
0 to 24	3372	3265	2721	2395	-29,0
25 to 64	5812	5922	6225	5697	-2,0
65+	1521	1542	1749	2398	57,7
Total	10705	10730	10696	10490	-2,0

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Total labor force in the Bouctouche watershed

Total labor force was 4215 people 15 and over working in 1981. This number was 5335 in 1996. These numbers represent a 27% increase in 29 years. This does not necessarily mean that more people are working, simply that more people are considered for the labor force as seen in the numbers for employed, unemployed and unemployment rate. In 1981, 3155 people were employed in the watershed, compared to 3975 in 1996; this represents

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Total population for Bouctouche watershed

	1981	1986	1991	1996	% change
0 to 19	4640	4165	3675	3372	-27,3
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65+	1170	1320	1500	1521	30,0
Total	10385	10525	10580	10705	3,1

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a 26% increase. But total unemployed people also increased 28%, being 1060 in 1981 to 1360 in 1996. Total unemployment rate during this period increased 1%, going from 25% in 1981 to 25% in 1996. This means that a quarter of the eligible workforce in the watershed is not employed.

Labour force in the Bouctouche watershed

	1981	1986	1991	1996	% change
total labour force	4215	4875	5060	5335	26,6
Employed	3155	3590	3855	3975	26,0
Unemployed	1060	1300	1220	1360	28,3
Unemployment rate	25,1	26,7	24,1	25,4	1,2

Total labor force by industry for the Bouctouche watershed

The labor force in the watershed is divided into 18 categories. The biggest, in 1996, being manufacturing industries with 1120 employees, the construction industry with 645 employees and the health and social service industry with 490 employees.

Between 1981 and 1996, a lot of these categories sustained major changes. The categories sustaining the biggest growth were the accommodations, food and beverage service industries with a 167% increase in 15 years, the business service industry with a 109% increase and the health and social service industry with a 46% increase. On the other front, the industries sustaining the biggest labor force losses were the real estate operator and insurance agent industries with a 75% loss, the mining, quarrying and oil well industries with a 55% decline and the finance and insurance industries with a 36% decline in 15 years. Again indicative of the economic shift in the area from large resource industries partially suffering such decrease.

otal labour force by industry division for Bouctouche watershed

Industry	1981	1986	1991	1996	% change
All Industries	4195	4760	4880		
Agricultural and related service industries	205	185	105	145	-29,3
Fishing and trapping industries	90	n/a	190	90	0,0
Logging and forestry industries	175	n/a	95	145	-17,1
Mining, quarrying and oil well industries	0	n/a	45	20	55,6
Manufacturing industries	925	1140	930	1120	21,1
Construction industries	585	545	640	645	10,3
Transportation and storage industries	275	650	605	240	-12,7
Communication and other utility industries	n/a	110	105	130	18,2
Wholesale trade industries	n/a	185	200	265	43,2
Retail trade industries	n/a	460	590	480	4,3
Finance and insurance industries	125	210	285	80	-36,0
Real estate operator and insurance agent industries	n/a	40	75	10	-75,0
Business service industries	??	55	65	115	109,1
Government service industries	205	235	255	155	-24,4
Educational service industries	n/a	350	275	335	-4,3
Health and social service industries	n/a	335	410	490	46,3

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Accommodations, food and beverage service industries	n/a	135	225	360	166,7 *
Other service industries	n/a	345	310	355	2,9 *

** Calculated with 1991 and 1996 data

* Calculated with 1986 and 1996 data

Assessment for Bouctouche and the different parishes

Bouctouche watershed

	1976	1986	1996	1999
Residential total	25,875,830	107,336,700	161,965,200	187,328,400
Non-residential total	1,467,540	13,680,100	24,034,800	23,710,300
Total assessment	27,343,370	105,665,350	186,000,000	211,038,700

Assessment ($) for Bouctouche (town)

	1976	1987	1996	1999
Residential total	9,868,020	31,734,500	63,684,800	66,627,000
Non-residential total	1,306,360	10,439,500	17,986,100	18,057,600
Total assessment	11,174,380	42,174,000	81,670,900	84,684,600

Assessment for St-Marie

	1976	1989	1996	1999
Residential total	5,728,760	28,778,500	42,992,100	47,598,900
Non-residential total	50,760	699,900	2,456,000	2,467,500
Total assessment	5,779,520	29,478,400	45,448,100	50,066,400

Assessment for St-Paul

	1976	1989	1996	1999
Residential total	1,900,350	12,383,200	18,553,900	18,825,800
Non-residential total	23,590	730,700	1,880,100	1,182,300
Total assessment	1,923,940	13,113,900	20,434,000	20,008,100

Assessment for Wellington

	1976	1989	1996	1999
Residential total	8,378,700	34,440,500	36,734,400	54,276,700
Non-residential total	86,830	1,810,000	1,712,600	2,002,900
Total assessment	8,465,530	36,250,500	38,447,000	56,279,600

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